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1: *J Chromatogr B Biomed Sci Appl* 2000 Jul 7;744(1):1-8

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## Direct quantification of AD-36 adenovirus DNA by capillary electrophoresis with laser-induced fluorescence.

Kolesar JM, Miller JA, Dhurandhar NV, Atkinson RL

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[Medline record in process]

An adenovirus, AD-36, has been linked to human adiposity and a sensitive and reliable quantitative method is required to assess AD-36 viral loads. This report describes direct detection of AD-36 viral DNA, which is the first method to quantitate DNA without amplification. Total genomic DNA is hybridized with an AD-36 specific fluorescently labeled probe and analyzed by capillary electrophoresis with laser-induced fluorescence. The minimum detectable quantity is 10.3 ng/ml, corresponding to 282 copies of AD-36 with a precision of 1-6%. These results indicate that direct detection with capillary electrophoresis with laser-induced fluorescence (CE-LIF) is a reliable and sensitive method for quantifying AD-36 viral DNA.

PMID: 10985560, UI: 20439744

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d 15 1-6 all

L5 ANSWER 1 OF 6 MEDLINE  
AN 2002617052 MEDLINE  
DN 22255142 PubMed ID: 12368411  
TI Human **adenovirus** Ad-36 promotes weight gain in male rhesus and marmoset monkeys.  
AU Dhurandhar Nikhil V; Whigham Leah D; Abbott David H; Schultz-Darken Nancy J; Israel Barbara A; Bradley Steven M; Kemnitz Joseph W; Allison David B; Atkinson Richard L  
CS Department of Nutrition and Food Science and the Center for Molecular Medicine and Genetics, Wayne State University, Detroit, MI, USA.. ndhurand@sun.science.wayne.edu  
SO JOURNAL OF NUTRITION, (2002 Oct) 132 (10) 3155-60.  
Journal code: 0404243. ISSN: 0022-3166.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 200210  
ED Entered STN: 20021011  
Last Updated on STN: 20021030  
Entered Medline: 20021029  
AB Although **obesity** has multiple etiologies, an overlooked possibility is an infectious origin. We previously identified two viruses, SMAM-1, an avian **adenovirus** (Ad), and Ad-36, a human **adenovirus**, that produce a syndrome of visceral **obesity**, with paradoxically decreased serum cholesterol and triglycerides in chickens and mice. In the two studies presented in this paper, we used nonhuman primates to investigate the adiposity-promoting potential of Ad-36. In study 1, we observed spontaneously occurring Ad-36 antibodies in 15 male rhesus monkeys, and a significant longitudinal association of positive antibody status with weight gain and plasma cholesterol lowering during the 18 mo after viral antibody appearance. In study 2, which was a randomized controlled experiment, three male marmosets inoculated with Ad-36 had a threefold body weight gain, a greater fat gain and lower serum cholesterol relative to baseline ( $P < 0.05$ ) than three uninfected controls at 28 wk postinoculation. These studies illustrate that the adiposity-promoting effect of Ad-36 occurs in two nonhuman primate species and demonstrates the usefulness of nonhuman primates for further evaluation of Ad-36-induced adiposity.  
CT Check Tags: Animal; Human; Male; Support, Non-U.S. Gov't  
\*Adenoviridae Infections: CO, complications  
\*Adenoviruses, Human  
    Adenoviruses, Human: IM, immunology  
    Adenoviruses, Human: PY, pathogenicity  
    Adipose Tissue: VI, virology  
    Antibodies, Viral: BL, blood  
    Callitrichinae  
\*Cholesterol: BL, blood  
    Disease Models, Animal  
    Macaca mulatta  
        Obesity: ET, etiology  
        Obesity: IM, immunology  
        \*Obesity: VI, virology  
    Random Allocation  
    Weight Gain  
RN 57-88-5 (Cholesterol)  
CN 0 (Antibodies, Viral)  
L5 ANSWER 2 OF 6 MEDLINE

ISSN: 0892-6638.

DT Conference; Abstract  
LA English

L13 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1996:210359 BIOSIS  
DN PREV199698766488  
TI Comparison of serotonin agonists in combination with phentermine for treatment of obesity.  
AU Dhurandhar, N. V.; Atkinson, R. L.  
CS Univ. Wisconsin, Madison, WI 53706 USA  
SO FASEB Journal, (1996) Vol. 10, No. 3, pp. A561.  
Meeting Info.: Experimental Biology 96, Part II Washington, D.C., USA  
April 14-17, 1996  
ISSN: 0892-6638.  
DT Conference  
LA English

L13 ANSWER 10 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1995:256581 BIOSIS  
DN PREV199598270881  
TI Serum cholesterol and triglyceride levels in weight reduction program dropouts.  
AU Dhurandhar, N. V. (1); Kulkarni, P. R.  
CS (1) Dep. Med., Univ. Wis. Med. Sch., Madison, WI 53706 USA  
SO International Journal of Food Sciences and Nutrition, (1995) Vol. 46, No. 1, pp. 17-20.  
ISSN: 0963-7486.  
DT Article  
LA English

L13 ANSWER 11 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1992:391505 BIOSIS  
DN BA94:63680  
TI EFFECT OF ADENOVIRUS INFECTION ON ADIPOSITY IN CHICKEN.  
AU DHURANDHAR N V; KULKARNI P; AJINKYA S M; SHERIKAR A  
CS DEP. FOOD TECHNOL., DEP. CHEM. TECHNOL., DEP. OF CHEMICAL TECHNOL., UNIV. OF BOMBAY, MATUNGA, BOMBAY 400 019, INDIA.  
SO VET MICROBIOL, (1992) 31 (2-3), 101-107.  
CODEN: VMICDQ. ISSN: 0378-1135.  
FS BA; OLD  
LA English

L13 ANSWER 12 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1992:352765 BIOSIS  
DN BA94:44990  
TI PREVALENCE OF OBESITY IN BOMBAY.  
AU DHURANDHAR N V; KULKARNI P R  
CS 69 DIXIT ROAD, VILE PARLE E , BOMBAY 400 057, INDIA.  
SO INT J OBES, (1992) 16 (5), 367-375.  
CODEN: IJOBDP. ISSN: 0307-0565.  
FS BA; OLD

d 113 8 all

L13 ANSWER 8 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 1997:185023 BIOSIS  
DN PREV199799484226  
TI Evidence for an association of a virus with obesity in humans.  
AU Dhurandhar, N. V.; Augustus, A.; Atkinson, R., L.  
CS Univ. Wisconsin Med. Sch., Madison, WI 53706 USA  
SO FASEB Journal, (1997) Vol. 11, No. 3, pp. A230.  
Meeting Info.: Annual Meeting of the Professional Research Scientists on  
Experimental Biology 97 New Orleans, Louisiana, USA April 6-9, 1997  
ISSN: 0892-6638.  
DT Conference; Abstract  
LA English  
CC General Biology - Symposia, Transactions and Proceedings of Conferences,  
Congresses, Review Annuals 00520  
Physiology, General and Miscellaneous - General \*12002  
Metabolism - Lipids \*13006  
Metabolism - Sterols and Steroids \*13008  
Metabolism - Proteins, Peptides and Amino Acids \*13012  
Nutrition - Malnutrition; Obesity \*13203  
Virology - Animal Host Viruses \*33506  
BC Adenoviridae 02601  
Hominidae \*86215  
IT Major Concepts  
Metabolism; Microbiology; Nutrition; Physiology  
IT Chemicals & Biochemicals  
CHOLESTEROL  
IT Miscellaneous Descriptors  
BODY MASS INDEX; CHOLESTEROL; LOW DENSITY LIPOPROTEIN; METABOLISM;  
NUTRITIONAL DISEASE; OBESITY; TRIGLYCERIDES  
ORGN Super Taxa  
Adenoviridae: Viruses; Hominidae: Primates, Mammalia, Vertebrata,  
Chordata, Animalia  
ORGN Organism Name  
adenovirus (Adenoviridae); human (Hominidae)  
ORGN Organism Superterms  
animals; chordates; humans; mammals; microorganisms; primates;  
vertebrates; viruses

d his

(FILE 'HOME' ENTERED AT 14:49:53 ON 11 JAN 2001)

FILE 'MEDLINE' ENTERED AT 14:50:00 ON 11 JAN 2001

L1 263316 S 1980/PY  
L2 O S WIGAND/AU AND L1  
L3 O S ADENCOVIRUS TYPE 36  
L4 O S ADENOVIRUS TYPE 36  
L5 O S AD-36P  
L6 15 S 36P  
L7 O S L1 AND L6  
L8 51956 S OBESITY  
L9 15617 S ADENOVIRUS  
L10 22 S L8 AND L9  
E DHURANDHAR N V/AU  
L11 6 S E1  
L12 8 S E3

FILE 'BIOSIS' ENTERED AT 15:01:09 ON 11 JAN 2001

E DHURANDHAR N V/AU  
L13 12 S E3  
E WIGAND/AU  
L14 O S ARCHIVES OF VIROLOGY/SO AND WIGAND/AU

d 113 1-12

- L13 ANSWER 1 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 2000:413802 BIOSIS  
DN PREV200000413802  
TI Increased adiposity in animals due to a human virus.  
AU **Dhurandhar, N. V.** (1); Israel, B. A.; Kolesar, J. M.; Mayhew, G.  
F.; Cook, M. E.; Atkinson, R. L.  
CS (1) Department of Nutrition and Food Science, Wayne State University,  
3009 Science Hall, Detroit, MI USA  
SO International Journal of Obesity, (August, 2000) Vol. 24, No. 8, pp.  
989-996. print.  
ISSN: 0307-0565.  
DT Article  
LA English  
SL English
- L13 ANSWER 2 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 2000:349954 BIOSIS  
DN PREV200000349954  
TI Weight gain and reduced serum lipids in non-human primates due to a human  
virus.  
AU Atkinson, R. L. (1); **Dhurandhar, N. V.** (1); Abbott, D. H. (1);  
Darken, N. (1)  
CS (1) University of Wisconsin, Madison, WI, 53706 USA  
SO International Journal of Obesity, (May, 2000) Vol. 24, No. Supplement 1,  
pp. S39. print.  
Meeting Info.: 10th European Congress on Obesity of the European  
Association for the Study of Obesity Antwerp, Belgium May 24-27, 2000  
European Association for the Study of Obesity  
. ISSN: 0307-0565.  
DT Conference  
LA English  
SL English
- L13 ANSWER 3 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 2000:298325 BIOSIS  
DN PREV200000298325  
TI Pathophysiology of the human adenovirus that induces adiposity in  
animals.  
AU **Dhurandhar, N. V.**; Israel, B. A.; Kolesar, J. M.; Atkinson, R.  
L.  
SO FASEB Journal, (March 15, 2000) Vol. 14, No. 4, pp. A732. print.  
Meeting Info.: Annual Meeting of Professional Research Scientists:  
Experimental Biology 2000 San Diego, California, USA April 15-18, 2000  
Federation of American Societies for Experimental Biology  
. ISSN: 0892-6638.  
DT Conference  
LA English  
SL English
- L13 ANSWER 4 OF 12 BIOSIS COPYRIGHT 2001 BIOSIS  
AN 2000:109722 BIOSIS  
DN PREV200000109722  
TI Initial weight loss as a predictor of response to obesity drugs.  
AU **Dhurandhar, N. V.**; Blank, R. C.; Schumacher, D.; Atkinson, R. L.  
(1)  
CS (1) University of Wisconsin, 1415 Linden Drive, Nutritional Sciences